

Ash collector for smokers

Specification:

The present invention relates to an ash collector for smokers.

Ash collectors for smokers are widely used in the form of ashtrays. These are, however, not suited for being carried along by the smoker. There have also been known sheet-metal boxes of cuboid shape with a hinged lid, which boxes can be carried along as traveling ashtrays. These boxes are, however, connected with the disadvantage that ashes tend to get spilled when a partly filled traveling ashtray is opened. When a cigarette or a cigar is stubbed out, the sheet metal of such a traveling ashtray tends to get hot and there is then the risk that the user may burn his fingers. Further, a traveling ashtray of that kind does not lend itself very well for being carried along by a person in his/her coat pocket.

The present invention now has for its object to provide an ash collector which overcomes the before-mentioned disadvantages and which is well suited for being carried along by both ladies and gentlemen.

This object is achieved by an ash collector having the features defined in Claim 1. Advantageous further developments of the invention are the subject-matter of the sub-claims.

The ash collector for smokers according to the invention comprises a bar-shaped container with an opening on one end that is closed by a removable solid closure body which consists, in full or predominantly, of a material resistant to the burning ash of cigarettes or cigars.

Such an ash collector provides substantial advantages:

- When a bar-shaped container is opened it is usually held like a bottle, with its opening up, so that the closure body can be removed to the top. There is, therefore, no risk that ashes may unwantedly fall out of the container during opening of the ash collector.
- When used outdoors there is no risk that the ashes may be blown out of the bar-shaped container by the wind.
- Due to its slim shape, the bar-shaped container can be held with ease.
- The closure body serves not only for closing the bar-shaped container, but also as a support for stubbing out and thereby extinguishing a cigarette or a cigar. Given the fact that the cigarette or cigar, instead of being stubbed out on a thin-walled vessel, can be stubbed out on a solid closure body, the entire mass of that body is available for absorbing the heat of the extinguishing embers so that there is hardly a risk for the smoker burning his fingers.
- Due to its bar-like shape, the ash collector may be carried like a writing pen in a coat pocket provided for that purpose or in a ladies' handbag together with other bar-shaped utensils, such as lipsticks or eyebrow pencils. The ash collector according to the invention therefore can be comfortably carried along by the smoker.

The closure body consists of a material, which is resistant to the burning ashes of cigarettes or cigars, especially of a metal that combines in itself high thermal capacity with high thermal stability. There is, however, also the possibility to make the closure body, in full or in part, from a ceramic material, a fireproof mass or a mineral material such as natural stone or an artificial stone material. According to an especially preferred solution, the closure body consists of a metal having high thermal conductivity, such as aluminum, copper or brass, as these materials, in addition to being highly heat-conductive, also have the effect to provide rapid temperature-balancing and rapid cooling of the burning ashes of cigarettes or cigars.

The thermal capacity of the closure body is preferably selected to ensure that the embers of a cigar or a cigarette being stubbed out on the closure body will be extinguished and cooled within a few seconds. According to an especially advantageous solution, the thermal capacity of the closure body is selected to ensure that the temperature of its surface area will not rise beyond a value of 50° Celsius when a cigarette or a cigar is stubbed out on the closure body, especially on the end of the closure body that faces the interior of the container.

Preferably, the closure body is provided, on its end facing the interior of the container, with a recess in which a cigarette or a cigar can be stubbed out. This provides the advantage, on the one hand, that the cigarette or cigar will not glide off when being stubbed out, and has the additional advantage that the recess will take up any ashes that may come off during the stubbing-out action, which ashes can then be transferred into the container when the closure body is restored to its normal position.

The recess in the closure body may be cylindrical, but preferably tapers from the end of the closure body toward the interior of the closure body, which assists the rapid extinguishing and cooling-down of the embers. A concave or a

spherical recess in the closure body is well suited for that purpose. A conical recess, especially one with a rounded tip, is especially preferred.

The closure body is most conveniently designed in the form of a plug. It is then especially easy to configure it as a solid body and to connect it as such with the bar-shaped container. Such a plug can be retained in the bar-shaped container with sufficient strength by merely adapting its outer diameter very closely to the inner diameter of the container. However, there is also the possibility to provide the outer surface area of the closure body with a groove in which a sealing ring can be fitted in a simple way, which not only provides a frictional connection between the closure body and the container in which it is received, but also prevents any smell of ashes from escaping from the container.

According to another solution, the closure body can be locked on the bar-shaped container as it is pushed into or onto the latter. And there is further the possibility to fasten the closure body on the bar-shaped container by screwing. A simple plug-in closure is, however, preferred.

Due to the fact that a cigarette or a cigar can be stubbed out and cooled down very well on the solid closure body, no particular demands need to be placed on the bar-shaped container regarding its temperature resistance so that the container may as well be designed as a molded plastic part. Preferably, however, the container is likewise made from metal, especially from a metal suited for deep-drawing, such as aluminum or an aluminum alloy, which is preferably selected to match the material of the closure body.

Preferably, the bar-shaped container has an outer diameter of 10 mm to 15 mm. A diameter of 12 mm is well suited. The wall thickness of the container may be thin, for example 0.2 mm to 0.3 mm. A length of 10 cm to 15 cm is preferred for the length of the ash collector.

Preferably, only part of the length of the ash collector is used for providing an ash-collecting chamber. According to an advantageous further development of the invention, there may be provided in the container a second chamber accessible from the end of the container opposite the closure body. Such second chamber may serve to accommodate a cigarette lighter so that the smoker can carry on his body both an ash collector and a cigarette lighter united in a slim, handy set. According to another advantageous solution, the ash collector is additionally used to accommodate a bar-like flashlight, which may be configured either as a separate unit accommodated in the second container, or as an integral part of the ash collector as such. In the later case, the container of the ash collector, and a sleeve provided on its end opposite the closure body, are simultaneously elements of the flashlight, namely part of its housing. The sleeve may also serve as a carrier and holder for a bulb, for a reflector and a glass pane, which may be configured as a diffusing glass for the flashlight. In order to permit the battery to be exchanged, the sleeve can be made removable, for example by means of a plug connection or a screw connection.

Three embodiments of the invention are illustrated in the attached drawings in which identical or corresponding parts are identified in the different examples by the same reference numerals. In the drawings:

Fig. 1 shows an perspective view of an ash collector according to the invention;

Fig. 2 shows another perspective view of the ash collector;

Fig. 3 shows a side view of the ash collector with the bar-shaped container shown as a sectional view;

Fig. 4 shows a top view of the ash collector;

Fig. 5 shows a longitudinal section of a detail of the bar-shaped container;

Fig. 6 shows a side view of a detail of the closure body;

Fig. 7 shows a side view of a second embodiment of an ash collector according to the invention with integrated flashlight, shown as a sectional view;

Fig. 8 shows an perspective view of the ash collector according to Fig. 7;

Fig. 9 shows a side view of a third embodiment of an ash collector according to the invention with integrated cigarette lighter, shown as a sectional view; and

Fig. 10 shows an perspective view of an ash collector according to Fig. 9.

The ash collector consists of a bar-shaped container 1, a solid closure body 2 and a clip 3. The container 1 is cylindrical in shape, closed on one of its ends forming sort of a cap 4, and open on its other end. It is thin-walled and consists of a metal, especially of aluminum or an aluminum alloy. It is suited for being made by deep-drawing.

The closure body 2 sits in the open end of the bar-shaped container 1. The closure body has a cylindrical shaft 5 whose outer diameter is closely adapted to the inner diameter of the container 1. The shaft 5 ends at a collar 6 which abuts against the edge of the container 1 when the closure body 2 is slid into the latter. Preferably, the container 1 and the collar 6 have the same outer diameter. The outer end of the closure body 2 has the shape of a cap 7 - corresponding to the cap 4 of the container 1 - but consists of solid material, contrary to the cap 4. Between the cap 7 and the collar 6 there is provided an annular groove 8 in which an annular retaining clamp 9 of the clip 3 is accommodated. Except for a conical recess 10 on its inner end, the closure

HA02E004USP/TS03S122/TW/TS

body 2 consists of solid material. It is preferably made from aluminum or an aluminum alloy. When the clip is gripped by the retaining clamp 9 and is withdrawn from the container 1, for the purpose of stubbing out a cigarette in the recess 10, the latter will cool down rapidly. The heat spreads over the solid closure body 2, and there will be no risk of the user burning his fingers.

In the middle of the shaft 5, there is further provided an annular groove 11 suited to either receive an O-ring or to coact with a bead 12 in the wall of the container 1, for retaining the closure body 2 in its closed position.

The embodiment illustrated in Figs. 7 and 8 differs from the first embodiment in that the clip 3 exhibits a different configuration compared with the first embodiment. That is, the clip 3 is not fixed on the closure body 2 by a retaining clamp 9, which embraces the closure body 2, but is provided with a leg 13, disposed inside the container 1, which extends in parallel to that leg of the clip which is disposed on the outside of the container 2 and is fixed in the annular gap between the closure body 2 and the wall of the container 1, for example by stamping or by spot-welding or else by bonding. It is an essential difference between the second embodiment and the first embodiment that a flashlight 14 is integrated in the ash collector, which comprises a bulb 15, a glass pane 16, that closes off the end of the container 1 opposite the closure body 2 and behind which the bulb 15 is positioned, further a battery 17, a push-button 18 for switching on the light, and a cap 19 that can be pulled off the container 1 in order to permit the battery 17 to be exchanged. A partition wall 20, provided in the container 1 adjacent the rear end of the cap 19, divides the interior of the container 1 into a chamber intended to receive the ashes and a chamber intended to receive the flashlight 14.

The integrated flashlight 14 supplements the ash collector in a convenient and advantageous way and extends its use and utility.

The third embodiment illustrated in Figs. 9 and 10 differs from the second embodiment illustrated in Figs. 7 and 8 in that, instead of a flashlight, a cigarette lighter 27 is integrated in the ash collector. The removable sleeve 21 is replaced by a comparatively short cap 22 provided on the end of the container 1 opposite the closure body 2, which cap may be configured as a separate part that can be pulled off. Preferably, the cap 22 can be opened and closed by means of a hinge 23. Mounted below the cap 22 are a valve 24 and a friction wheel 25, with a conventional tank 26 for fuel (liquid gas or petrol) arranged behind the latter.

The integrated cigarette lighter 27 likewise supplements the ash collector in a convenient and advantageous way and extends its use and utility.

List of reference numerals:

1. Container
2. Closure body
3. Clip
4. Spherical cap
5. Shaft
6. Collar
7. Spherical cap of 2
8. Annular groove
9. Retaining clamp of 3
10. Recess in 2
11. Annular groove
12. Bead
13. Leg
14. Flashlight
15. Bulb
16. Glass pane
17. Battery
18. Push-button
19. Cap
20. Partition wall
21. Sleeve
22. Cap
23. Hinge
24. Valve
25. Friction wheel
26. Tank
27. Cigarette lighter